



Note: Tracks are now grouped by subcluster and scaled. Switching in subcluster is indicated by changes in track color. Track scale is now set by default to display the region 30 bp upstream of start 1 to 30 bp downstream of the last possible start. If this default region is judged to be packed too tightly with annotated starts, the track will be further scaled to only show that region of the ORF with annotated starts. This action will be indicated by adding "Zoomed" to the title. For starts, yellow indicates the location of called starts comprised solely of Glimmer/GeneMark auto-annotations, green indicates the location of called starts with at least 1 manual gene annotation.

## Pham 224388 Report

This analysis was run 03/28/25 on database version 593.

Pham number 224388 has 135 members, 10 are drafts.

Phages represented in each track:

- Track 1 : MadamMonkfish\_113, Gage\_116, StormChicken\_116, Eureka\_114, Misfit\_115, Traaww1\_111, HanKaySha\_114, Kimchi\_119, Contagion\_111, PhatBacter\_117, Adnama\_118, Lilizi\_114, Murica\_118, Becksu\_112, JeTaime\_113, Nimrod\_115, TBrady12\_118, Lilpickle\_113, Petra64142\_118, Hopey\_114, Murphy\_113, Phaux\_116, Stark\_114, BaboJay\_114, Moldemort\_116, Emmina\_114, Pumpkin\_115, Bruin\_111, Xandras\_114, Elite2014\_113, Sassay\_109, CrystalP\_115, GoldenSpark\_118, Miniwave\_109, Barbarian\_114, xkcd\_118, Maxxinista\_116, 244\_116, BilboSwaggins\_114, Bench\_116, StolenFromERC\_116, Tarkin\_113, Manda\_115, Buck\_115, Asriel\_113, FairyPath\_114, Command613\_117, Ukulele\_109, Stank\_117, Flypotenuse\_111, Dumbo\_114, MISSy\_115, Saints25\_110, Cjw1\_114, Wiggin\_117, YassJohnny\_111, Qualification\_115, MPhalcon\_115, Easy2Say\_114, AmericanBeauty\_117, Hoonter\_117, Youngblood\_118, Rimmer\_112, Gemini\_119, Simpliphy\_112, FireRed\_117, Lilac\_115, Czyszczo1\_114, Elph10\_113, Teaspoon\_115, Thresher\_115, Filch\_117, Argent26\_118, BigBubba\_116, Goku\_114, Goldilocks\_118, Myrale\_115, Terminus\_117, Palpatine\_115, Porky\_113, Thimble\_116, OrionPax\_112, Highbury\_110, Balomoji\_115, NoSleep\_114, Willez\_109, Toto\_113, StellaBean\_112, Mosby\_111, Rakim\_116, NelitzaMV\_111, HufflyPuff\_116, BugsBunny\_113, Phrux\_110, ShereKhan\_112, Paperbeatsrock\_113, Nala\_116, Holt\_120, RiverMonster\_113, Tomaszewski\_109, ShamWow\_115, ChosenOne\_114, GooberAzure\_117, Kanye\_111, Policronamos\_117
- Track 2 : Marshmallow\_116, Pat3\_114, Bask21\_118, Inca\_114, Cookies\_115, Phaja\_116, Amao\_118, Dusk\_115, FoghornLeghorn\_111, SirDuracell\_118
- Track 3 : Henry\_116, Glexan\_117, Harella\_119, ChotaBhai\_118, Gator\_116, IHOP\_116, DrDrey\_118
- Track 4 : DoctorDiddles\_113, Daikon\_116, SophKB\_113
- Track 5 : TeardropMSU\_114, Sotrice96\_119, Mindy\_117, Icee\_119, BadStone\_115, ABCat\_115, Cactus\_122, Tuco\_119, Pharsalus\_114
- Track 6 : Kostya\_117

### ***Summary of Final Annotations (See graph section above for start numbers):***

The start number called the most often in the published annotations is 3, it was called in 124 of the 125 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- 244\_116, ABCat\_115, Adnama\_118, Amao\_118, AmericanBeauty\_117, Argent26\_118, Asriel\_113, BaboJay\_114, BadStone\_115, Balomoji\_115, Barbarian\_114, Bask21\_118, Becksu\_112, Bench\_116, BigBubba\_116, BilboSwaggins\_114, Bruin\_111, Buck\_115, BugsBunny\_113, Cactus\_122, ChosenOne\_114, ChotaBhai\_118, Cjw1\_114, Command613\_117, Contagion\_111, Cookies\_115, CrystalP\_115, Czyszczonek\_114, Daikon\_116, DoctorDiddles\_113, DrDrey\_118, Dumbo\_114, Dusk\_115, Easy2Say\_114, Elite2014\_113, Elph10\_113, Emmina\_114, Eureka\_114, FairyPath\_114, Filch\_117, FireRed\_117, Flypotenuse\_111, FoghornLeghorn\_111, Gage\_116, Gator\_116, Gemini\_119, Glexan\_117, Goku\_114, GoldenSpark\_118, Goldilocks\_118, GooberAzure\_117, HanKaySha\_114, Harella\_119, Henry\_116, Highbury\_110, Holt\_120, Hoonter\_117, Hopey\_114, HufflyPuff\_116, IHOP\_116, Icee\_119, Inca\_114, JeTaime\_113, Kanye\_111, Kimchi\_119, Lilac\_115, Lilizi\_114, Lilpickle\_113, MISSy\_115, MPhalcon\_115, MadamMonkfish\_113, Manda\_115, Marshmallow\_116, Maxxinista\_116, Mindy\_117, Miniwave\_109, Misfit\_115, Moldemort\_116, Mosby\_111, Murica\_118, Murphy\_113, Myrale\_115, Nala\_116, NelitzaMV\_111, Nimrod\_115, NoSleep\_114, OrionPax\_112, Palpatine\_115, Paperbeatsrock\_113, Pat3\_114, Petra64142\_118, Phaja\_116, Pharsalus\_114, PhatBacter\_117, Phaux\_116, Phrux\_110, Policronamos\_117, Porky\_113, Pumpkin\_115, Qualification\_115, Rakim\_116, Rimmer\_112, RiverMonster\_113, Saints25\_110, Sassay\_109, ShamWow\_115, ShereKhan\_112, Simpliphy\_112, SirDuracell\_118, SophKB\_113, Sotrice96\_119, Stank\_117, Stark\_114, StellaBean\_112, StolenFromERC\_116, StormChicken\_116, TBrady12\_118, Tarkin\_113, TeardropMSU\_114, Teaspoon\_115, Terminus\_117, Thimble\_116, Thresher\_115, Tomaszewski\_109, Toto\_113, Traaww1\_111, Tuco\_119, Ukulele\_109, Wiggin\_117, Willez\_109, Xandras\_114, YassJohnny\_111, Youngblood\_118, xkcd\_118,

Genes that have the "Most Annotated" start but do not call it:

- Kostya\_117,

Genes that do not have the "Most Annotated" start:

- 

### Summary by start number:

Start 2:

- Found in 18 of 135 ( 13.3% ) of genes in pham
- Manual Annotations of this start: 1 of 125
- Called 5.6% of time when present
- Phage (with cluster) where this start called: Kostya\_117 (E),

Start 3:

- Found in 135 of 135 ( 100.0% ) of genes in pham
- Manual Annotations of this start: 124 of 125
- Called 99.3% of time when present
- Phage (with cluster) where this start called: 244\_116 (E), ABCat\_115 (E), Adnama\_118 (E), Amao\_118 (E), AmericanBeauty\_117 (E), Argent26\_118 (E), Asriel\_113 (E), BaboJay\_114 (E), BadStone\_115 (E), Balomoji\_115 (E), Barbarian\_114 (E), Bask21\_118 (E), Becksu\_112 (E), Bench\_116 (E), BigBubba\_116 (E), BilboSwaggins\_114 (E), Bruin\_111 (E), Buck\_115 (E), BugsBunny\_113 (E), Cactus\_122 (E), ChosenOne\_114 (E), ChotaBhai\_118 (E), Cjw1\_114 (E), Command613\_117 (E), Contagion\_111 (E), Cookies\_115 (E), CrystalP\_115 (E),

Czyszczone1\_114 (E), Daikon\_116 (E), DoctorDiddles\_113 (E), DrDrey\_118 (E), Dumbo\_114 (E), Dusk\_115 (E), Easy2Say\_114 (E), Elite2014\_113 (E), Elph10\_113 (E), Emmina\_114 (E), Eureka\_114 (E), FairyPath\_114 (E), Filch\_117 (E), FireRed\_117 (E), Flypotenuse\_111 (E), FoghornLeghorn\_111 (E), Gage\_116 (E), Gator\_116 (E), Gemini\_119 (E), Glexan\_117 (E), Goku\_114 (E), GoldenSpark\_118 (E), Goldilocks\_118 (E), GooberAzure\_117 (E), HanKaySha\_114 (E), Harella\_119 (E), Henry\_116 (E), Highbury\_110 (E), Holt\_120 (E), Hoonter\_117 (E), Hopey\_114 (E), HufflyPuff\_116 (E), IHOP\_116 (E), Icee\_119 (E), Inca\_114 (E), JeTaime\_113 (E), Kanye\_111 (E), Kimchi\_119 (E), Lilac\_115 (E), Lilizi\_114 (E), Lilpickle\_113 (E), MISSy\_115 (E), MPhalcon\_115 (E), MadamMonkfish\_113 (E), Manda\_115 (E), Marshmallow\_116 (E), Maxxinista\_116 (E), Mindy\_117 (E), Miniwave\_109 (E), Misfit\_115 (E), Moldemort\_116 (E), Mosby\_111 (E), Murica\_118 (E), Murphy\_113 (E), Myrale\_115 (E), Nala\_116 (E), NelitzaMV\_111 (E), Nimrod\_115 (E), NoSleep\_114 (E), OrionPax\_112 (E), Palpatine\_115 (E), Paperbeatsrock\_113 (E), Pat3\_114 (E), Petra64142\_118 (E), Phaja\_116 (E), Pharsalus\_114 (E), PhatBacter\_117 (E), Phaux\_116 (E), Phrux\_110 (E), Policronamos\_117 (E), Porky\_113 (E), Pumpkin\_115 (E), Quallification\_115 (E), Rakim\_116 (E), Rimmer\_112 (E), RiverMonster\_113 (E), Saints25\_110 (E), Sassay\_109 (E), ShamWow\_115 (E), ShereKhan\_112 (E), Simpliphy\_112 (E), SirDuracell\_118 (E), SophKB\_113 (E), Sotrice96\_119 (E), Stank\_117 (E), Stark\_114 (E), StellaBean\_112 (E), StolenFromERC\_116 (E), StormChicken\_116 (E), TBrady12\_118 (E), Tarkin\_113 (E), TeardropMSU\_114 (E), Teaspoon\_115 (E), Terminus\_117 (E), Thimble\_116 (E), Thresher\_115 (E), Tomaszewski\_109 (E), Toto\_113 (E), Traaww1\_111 (E), Tuco\_119 (E), Ukulele\_109 (E), Wiggin\_117 (E), Willez\_109 (E), Xandras\_114 (E), YassJohnny\_111 (E), Youngblood\_118 (E), xkcd\_118 (E),

### Summary by clusters:

There is one cluster represented in this pham: E

Info for manual annotations of cluster E:

- Start number 2 was manually annotated 1 time for cluster E.
- Start number 3 was manually annotated 124 times for cluster E.

### Gene Information:

Gene: 244\_116 Start: 65056, Stop: 65298, Start Num: 3

Candidate Starts for 244\_116:

(1, 64978), (Start: 3 @65056 has 124 MA's), (4, 65164), (6, 65242),

Gene: ABCat\_115 Start: 66539, Stop: 66781, Start Num: 3

Candidate Starts for ABCat\_115:

(Start: 3 @66539 has 124 MA's), (4, 66647), (6, 66725),

Gene: Adnama\_118 Start: 64969, Stop: 65211, Start Num: 3

Candidate Starts for Adnama\_118:

(1, 64891), (Start: 3 @64969 has 124 MA's), (4, 65077), (6, 65155),

Gene: Amao\_118 Start: 66102, Stop: 66344, Start Num: 3

Candidate Starts for Amao\_118:

(Start: 2 @66060 has 1 MA's), (Start: 3 @66102 has 124 MA's), (4, 66210), (6, 66288),

Gene: AmericanBeauty\_117 Start: 65011, Stop: 65253, Start Num: 3  
Candidate Starts for AmericanBeauty\_117:  
(1, 64933), (Start: 3 @65011 has 124 MA's), (4, 65119), (6, 65197),

Gene: Argent26\_118 Start: 64893, Stop: 65135, Start Num: 3  
Candidate Starts for Argent26\_118:  
(1, 64815), (Start: 3 @64893 has 124 MA's), (4, 65001), (6, 65079),

Gene: Asriel\_113 Start: 63844, Stop: 64086, Start Num: 3  
Candidate Starts for Asriel\_113:  
(1, 63766), (Start: 3 @63844 has 124 MA's), (4, 63952), (6, 64030),

Gene: BaboJay\_114 Start: 66229, Stop: 66471, Start Num: 3  
Candidate Starts for BaboJay\_114:  
(1, 66151), (Start: 3 @66229 has 124 MA's), (4, 66337), (6, 66415),

Gene: BadStone\_115 Start: 66087, Stop: 66329, Start Num: 3  
Candidate Starts for BadStone\_115:  
(Start: 3 @66087 has 124 MA's), (4, 66195), (6, 66273),

Gene: Balomoji\_115 Start: 65627, Stop: 65869, Start Num: 3  
Candidate Starts for Balomoji\_115:  
(1, 65549), (Start: 3 @65627 has 124 MA's), (4, 65735), (6, 65813),

Gene: Barbarian\_114 Start: 63844, Stop: 64086, Start Num: 3  
Candidate Starts for Barbarian\_114:  
(1, 63766), (Start: 3 @63844 has 124 MA's), (4, 63952), (6, 64030),

Gene: Bask21\_118 Start: 64904, Stop: 65146, Start Num: 3  
Candidate Starts for Bask21\_118:  
(Start: 2 @64862 has 1 MA's), (Start: 3 @64904 has 124 MA's), (4, 65012), (6, 65090),

Gene: Becksu\_112 Start: 65282, Stop: 65524, Start Num: 3  
Candidate Starts for Becksu\_112:  
(1, 65204), (Start: 3 @65282 has 124 MA's), (4, 65390), (6, 65468),

Gene: Bench\_116 Start: 65650, Stop: 65892, Start Num: 3  
Candidate Starts for Bench\_116:  
(1, 65572), (Start: 3 @65650 has 124 MA's), (4, 65758), (6, 65836),

Gene: BigBubba\_116 Start: 64702, Stop: 64944, Start Num: 3  
Candidate Starts for BigBubba\_116:  
(1, 64624), (Start: 3 @64702 has 124 MA's), (4, 64810), (6, 64888),

Gene: BilboSwaggins\_114 Start: 66124, Stop: 66366, Start Num: 3  
Candidate Starts for BilboSwaggins\_114:  
(1, 66046), (Start: 3 @66124 has 124 MA's), (4, 66232), (6, 66310),

Gene: Bruin\_111 Start: 64334, Stop: 64576, Start Num: 3  
Candidate Starts for Bruin\_111:  
(1, 64256), (Start: 3 @64334 has 124 MA's), (4, 64442), (6, 64520),

Gene: Buck\_115 Start: 66150, Stop: 66392, Start Num: 3  
Candidate Starts for Buck\_115:  
(1, 66072), (Start: 3 @66150 has 124 MA's), (4, 66258), (6, 66336),

Gene: BugsBunny\_113 Start: 65648, Stop: 65890, Start Num: 3  
Candidate Starts for BugsBunny\_113:  
(1, 65570), (Start: 3 @65648 has 124 MA's), (4, 65756), (6, 65834),

Gene: Cactus\_122 Start: 65447, Stop: 65689, Start Num: 3  
Candidate Starts for Cactus\_122:  
(Start: 3 @65447 has 124 MA's), (4, 65555), (6, 65633),

Gene: ChosenOne\_114 Start: 64534, Stop: 64776, Start Num: 3  
Candidate Starts for ChosenOne\_114:  
(1, 64456), (Start: 3 @64534 has 124 MA's), (4, 64642), (6, 64720),

Gene: ChotaBhai\_118 Start: 65846, Stop: 66088, Start Num: 3  
Candidate Starts for ChotaBhai\_118:  
(Start: 2 @65804 has 1 MA's), (Start: 3 @65846 has 124 MA's), (4, 65954), (5, 65981), (6, 66032),

Gene: Cjw1\_114 Start: 66343, Stop: 66585, Start Num: 3  
Candidate Starts for Cjw1\_114:  
(1, 66265), (Start: 3 @66343 has 124 MA's), (4, 66451), (6, 66529),

Gene: Command613\_117 Start: 65620, Stop: 65862, Start Num: 3  
Candidate Starts for Command613\_117:  
(1, 65542), (Start: 3 @65620 has 124 MA's), (4, 65728), (6, 65806),

Gene: Contagion\_111 Start: 64696, Stop: 64938, Start Num: 3  
Candidate Starts for Contagion\_111:  
(1, 64618), (Start: 3 @64696 has 124 MA's), (4, 64804), (6, 64882),

Gene: Cookies\_115 Start: 65832, Stop: 66074, Start Num: 3  
Candidate Starts for Cookies\_115:  
(Start: 2 @65790 has 1 MA's), (Start: 3 @65832 has 124 MA's), (4, 65940), (6, 66018),

Gene: CrystalP\_115 Start: 66124, Stop: 66366, Start Num: 3  
Candidate Starts for CrystalP\_115:  
(1, 66046), (Start: 3 @66124 has 124 MA's), (4, 66232), (6, 66310),

Gene: Czyszczone1\_114 Start: 64689, Stop: 64931, Start Num: 3  
Candidate Starts for Czyszczone1\_114:  
(1, 64611), (Start: 3 @64689 has 124 MA's), (4, 64797), (6, 64875),

Gene: Daikon\_116 Start: 64923, Stop: 65165, Start Num: 3  
Candidate Starts for Daikon\_116:  
(Start: 3 @64923 has 124 MA's), (4, 65031), (6, 65109),

Gene: DoctorDiddles\_113 Start: 64583, Stop: 64825, Start Num: 3  
Candidate Starts for DoctorDiddles\_113:  
(Start: 3 @64583 has 124 MA's), (4, 64691), (6, 64769),

Gene: DrDrey\_118 Start: 67225, Stop: 67467, Start Num: 3

Candidate Starts for DrDrey\_118:

(Start: 2 @67183 has 1 MA's), (Start: 3 @67225 has 124 MA's), (4, 67333), (5, 67360), (6, 67411),

Gene: Dumbo\_114 Start: 64726, Stop: 64968, Start Num: 3

Candidate Starts for Dumbo\_114:

(1, 64648), (Start: 3 @64726 has 124 MA's), (4, 64834), (6, 64912),

Gene: Dusk\_115 Start: 65747, Stop: 65989, Start Num: 3

Candidate Starts for Dusk\_115:

(Start: 2 @65705 has 1 MA's), (Start: 3 @65747 has 124 MA's), (4, 65855), (6, 65933),

Gene: Easy2Say\_114 Start: 65360, Stop: 65602, Start Num: 3

Candidate Starts for Easy2Say\_114:

(1, 65282), (Start: 3 @65360 has 124 MA's), (4, 65468), (6, 65546),

Gene: Elite2014\_113 Start: 64533, Stop: 64775, Start Num: 3

Candidate Starts for Elite2014\_113:

(1, 64455), (Start: 3 @64533 has 124 MA's), (4, 64641), (6, 64719),

Gene: Elph10\_113 Start: 64372, Stop: 64614, Start Num: 3

Candidate Starts for Elph10\_113:

(1, 64294), (Start: 3 @64372 has 124 MA's), (4, 64480), (6, 64558),

Gene: Emmina\_114 Start: 64311, Stop: 64553, Start Num: 3

Candidate Starts for Emmina\_114:

(1, 64233), (Start: 3 @64311 has 124 MA's), (4, 64419), (6, 64497),

Gene: Eureka\_114 Start: 65499, Stop: 65741, Start Num: 3

Candidate Starts for Eureka\_114:

(1, 65421), (Start: 3 @65499 has 124 MA's), (4, 65607), (6, 65685),

Gene: FairyPath\_114 Start: 65804, Stop: 66046, Start Num: 3

Candidate Starts for FairyPath\_114:

(1, 65726), (Start: 3 @65804 has 124 MA's), (4, 65912), (6, 65990),

Gene: Filch\_117 Start: 65265, Stop: 65507, Start Num: 3

Candidate Starts for Filch\_117:

(1, 65187), (Start: 3 @65265 has 124 MA's), (4, 65373), (6, 65451),

Gene: FireRed\_117 Start: 65775, Stop: 66017, Start Num: 3

Candidate Starts for FireRed\_117:

(1, 65697), (Start: 3 @65775 has 124 MA's), (4, 65883), (6, 65961),

Gene: Flypotenuse\_111 Start: 64498, Stop: 64740, Start Num: 3

Candidate Starts for Flypotenuse\_111:

(1, 64420), (Start: 3 @64498 has 124 MA's), (4, 64606), (6, 64684),

Gene: FoghornLeghorn\_111 Start: 63524, Stop: 63766, Start Num: 3

Candidate Starts for FoghornLeghorn\_111:

(Start: 2 @63482 has 1 MA's), (Start: 3 @63524 has 124 MA's), (4, 63632), (6, 63710),

Gene: Gage\_116 Start: 65031, Stop: 65273, Start Num: 3

Candidate Starts for Gage\_116:

(1, 64953), (Start: 3 @65031 has 124 MA's), (4, 65139), (6, 65217),

Gene: Gator\_116 Start: 65799, Stop: 66041, Start Num: 3

Candidate Starts for Gator\_116:

(Start: 2 @65757 has 1 MA's), (Start: 3 @65799 has 124 MA's), (4, 65907), (5, 65934), (6, 65985),

Gene: Gemini\_119 Start: 65410, Stop: 65652, Start Num: 3

Candidate Starts for Gemini\_119:

(1, 65332), (Start: 3 @65410 has 124 MA's), (4, 65518), (6, 65596),

Gene: Glexan\_117 Start: 65949, Stop: 66191, Start Num: 3

Candidate Starts for Glexan\_117:

(Start: 2 @65907 has 1 MA's), (Start: 3 @65949 has 124 MA's), (4, 66057), (5, 66084), (6, 66135),

Gene: Goku\_114 Start: 65808, Stop: 66050, Start Num: 3

Candidate Starts for Goku\_114:

(1, 65730), (Start: 3 @65808 has 124 MA's), (4, 65916), (6, 65994),

Gene: GoldenSpark\_118 Start: 64893, Stop: 65135, Start Num: 3

Candidate Starts for GoldenSpark\_118:

(1, 64815), (Start: 3 @64893 has 124 MA's), (4, 65001), (6, 65079),

Gene: Goldilocks\_118 Start: 65489, Stop: 65731, Start Num: 3

Candidate Starts for Goldilocks\_118:

(1, 65411), (Start: 3 @65489 has 124 MA's), (4, 65597), (6, 65675),

Gene: GooberAzure\_117 Start: 64893, Stop: 65135, Start Num: 3

Candidate Starts for GooberAzure\_117:

(1, 64815), (Start: 3 @64893 has 124 MA's), (4, 65001), (6, 65079),

Gene: HanKaySha\_114 Start: 65081, Stop: 65323, Start Num: 3

Candidate Starts for HanKaySha\_114:

(1, 65003), (Start: 3 @65081 has 124 MA's), (4, 65189), (6, 65267),

Gene: Harella\_119 Start: 66465, Stop: 66707, Start Num: 3

Candidate Starts for Harella\_119:

(Start: 2 @66423 has 1 MA's), (Start: 3 @66465 has 124 MA's), (4, 66573), (5, 66600), (6, 66651),

Gene: Henry\_116 Start: 65750, Stop: 65992, Start Num: 3

Candidate Starts for Henry\_116:

(Start: 2 @65708 has 1 MA's), (Start: 3 @65750 has 124 MA's), (4, 65858), (5, 65885), (6, 65936),

Gene: Highbury\_110 Start: 63238, Stop: 63480, Start Num: 3

Candidate Starts for Highbury\_110:

(1, 63160), (Start: 3 @63238 has 124 MA's), (4, 63346), (6, 63424),

Gene: Holt\_120 Start: 65887, Stop: 66129, Start Num: 3

Candidate Starts for Holt\_120:

(1, 65809), (Start: 3 @65887 has 124 MA's), (4, 65995), (6, 66073),

Gene: Hoonter\_117 Start: 65386, Stop: 65628, Start Num: 3

Candidate Starts for Hoonter\_117:

(1, 65308), (Start: 3 @65386 has 124 MA's), (4, 65494), (6, 65572),



Gene: Hopey\_114 Start: 65692, Stop: 65934, Start Num: 3

Candidate Starts for Hopey\_114:

(1, 65614), (Start: 3 @65692 has 124 MA's), (4, 65800), (6, 65878),

Gene: HufflyPuff\_116 Start: 66001, Stop: 66243, Start Num: 3

Candidate Starts for HufflyPuff\_116:

(1, 65923), (Start: 3 @66001 has 124 MA's), (4, 66109), (6, 66187),

Gene: IHOP\_116 Start: 65468, Stop: 65710, Start Num: 3

Candidate Starts for IHOP\_116:

(Start: 2 @65426 has 1 MA's), (Start: 3 @65468 has 124 MA's), (4, 65576), (5, 65603), (6, 65654),

Gene: Icee\_119 Start: 65438, Stop: 65680, Start Num: 3

Candidate Starts for Icee\_119:

(Start: 3 @65438 has 124 MA's), (4, 65546), (6, 65624),

Gene: Inca\_114 Start: 63647, Stop: 63889, Start Num: 3

Candidate Starts for Inca\_114:

(Start: 2 @63605 has 1 MA's), (Start: 3 @63647 has 124 MA's), (4, 63755), (6, 63833),

Gene: JeTaime\_113 Start: 65099, Stop: 65341, Start Num: 3

Candidate Starts for JeTaime\_113:

(1, 65021), (Start: 3 @65099 has 124 MA's), (4, 65207), (6, 65285),

Gene: Kanye\_111 Start: 65142, Stop: 65384, Start Num: 3

Candidate Starts for Kanye\_111:

(1, 65064), (Start: 3 @65142 has 124 MA's), (4, 65250), (6, 65328),

Gene: Kimchi\_119 Start: 65614, Stop: 65856, Start Num: 3

Candidate Starts for Kimchi\_119:

(1, 65536), (Start: 3 @65614 has 124 MA's), (4, 65722), (6, 65800),

Gene: Kostya\_117 Start: 65528, Stop: 65812, Start Num: 2

Candidate Starts for Kostya\_117:

(Start: 2 @65528 has 1 MA's), (Start: 3 @65570 has 124 MA's), (4, 65678), (5, 65705), (6, 65756),

Gene: Lilac\_115 Start: 65835, Stop: 66077, Start Num: 3

Candidate Starts for Lilac\_115:

(1, 65757), (Start: 3 @65835 has 124 MA's), (4, 65943), (6, 66021),

Gene: Lilizi\_114 Start: 65121, Stop: 65363, Start Num: 3

Candidate Starts for Lilizi\_114:

(1, 65043), (Start: 3 @65121 has 124 MA's), (4, 65229), (6, 65307),

Gene: Lilpickle\_113 Start: 64533, Stop: 64775, Start Num: 3

Candidate Starts for Lilpickle\_113:

(1, 64455), (Start: 3 @64533 has 124 MA's), (4, 64641), (6, 64719),

Gene: MISSy\_115 Start: 65818, Stop: 66060, Start Num: 3

Candidate Starts for MISSy\_115:

(1, 65740), (Start: 3 @65818 has 124 MA's), (4, 65926), (6, 66004),

Gene: MPhalcon\_115 Start: 65236, Stop: 65478, Start Num: 3  
Candidate Starts for MPhalcon\_115:  
(1, 65158), (Start: 3 @65236 has 124 MA's), (4, 65344), (6, 65422),

Gene: MadamMonkfish\_113 Start: 64543, Stop: 64785, Start Num: 3  
Candidate Starts for MadamMonkfish\_113:  
(1, 64465), (Start: 3 @64543 has 124 MA's), (4, 64651), (6, 64729),

Gene: Manda\_115 Start: 65273, Stop: 65515, Start Num: 3  
Candidate Starts for Manda\_115:  
(1, 65195), (Start: 3 @65273 has 124 MA's), (4, 65381), (6, 65459),

Gene: Marshmallow\_116 Start: 66252, Stop: 66494, Start Num: 3  
Candidate Starts for Marshmallow\_116:  
(Start: 2 @66210 has 1 MA's), (Start: 3 @66252 has 124 MA's), (4, 66360), (6, 66438),

Gene: Maxxinsta\_116 Start: 65020, Stop: 65262, Start Num: 3  
Candidate Starts for Maxxinsta\_116:  
(1, 64942), (Start: 3 @65020 has 124 MA's), (4, 65128), (6, 65206),

Gene: Mindy\_117 Start: 65411, Stop: 65653, Start Num: 3  
Candidate Starts for Mindy\_117:  
(Start: 3 @65411 has 124 MA's), (4, 65519), (6, 65597),

Gene: Miniwave\_109 Start: 64729, Stop: 64971, Start Num: 3  
Candidate Starts for Miniwave\_109:  
(1, 64651), (Start: 3 @64729 has 124 MA's), (4, 64837), (6, 64915),

Gene: Misfit\_115 Start: 66332, Stop: 66574, Start Num: 3  
Candidate Starts for Misfit\_115:  
(1, 66254), (Start: 3 @66332 has 124 MA's), (4, 66440), (6, 66518),

Gene: Moldemort\_116 Start: 65001, Stop: 65243, Start Num: 3  
Candidate Starts for Moldemort\_116:  
(1, 64923), (Start: 3 @65001 has 124 MA's), (4, 65109), (6, 65187),

Gene: Mosby\_111 Start: 64696, Stop: 64938, Start Num: 3  
Candidate Starts for Mosby\_111:  
(1, 64618), (Start: 3 @64696 has 124 MA's), (4, 64804), (6, 64882),

Gene: Murica\_118 Start: 67035, Stop: 67277, Start Num: 3  
Candidate Starts for Murica\_118:  
(1, 66957), (Start: 3 @67035 has 124 MA's), (4, 67143), (6, 67221),

Gene: Murphy\_113 Start: 65393, Stop: 65635, Start Num: 3  
Candidate Starts for Murphy\_113:  
(1, 65315), (Start: 3 @65393 has 124 MA's), (4, 65501), (6, 65579),

Gene: Myrale\_115 Start: 65908, Stop: 66150, Start Num: 3  
Candidate Starts for Myrale\_115:  
(1, 65830), (Start: 3 @65908 has 124 MA's), (4, 66016), (6, 66094),

Gene: Nala\_116 Start: 65745, Stop: 65987, Start Num: 3

Candidate Starts for Nala\_116:

(1, 65667), (Start: 3 @65745 has 124 MA's), (4, 65853), (6, 65931),

Gene: NelitzaMV\_111 Start: 63718, Stop: 63960, Start Num: 3

Candidate Starts for NelitzaMV\_111:

(1, 63640), (Start: 3 @63718 has 124 MA's), (4, 63826), (6, 63904),

Gene: Nimrod\_115 Start: 65959, Stop: 66201, Start Num: 3

Candidate Starts for Nimrod\_115:

(1, 65881), (Start: 3 @65959 has 124 MA's), (4, 66067), (6, 66145),

Gene: NoSleep\_114 Start: 64553, Stop: 64795, Start Num: 3

Candidate Starts for NoSleep\_114:

(1, 64475), (Start: 3 @64553 has 124 MA's), (4, 64661), (6, 64739),

Gene: OrionPax\_112 Start: 64626, Stop: 64868, Start Num: 3

Candidate Starts for OrionPax\_112:

(1, 64548), (Start: 3 @64626 has 124 MA's), (4, 64734), (6, 64812),

Gene: Palpatine\_115 Start: 66030, Stop: 66272, Start Num: 3

Candidate Starts for Palpatine\_115:

(1, 65952), (Start: 3 @66030 has 124 MA's), (4, 66138), (6, 66216),

Gene: Paperbeatsrock\_113 Start: 65407, Stop: 65649, Start Num: 3

Candidate Starts for Paperbeatsrock\_113:

(1, 65329), (Start: 3 @65407 has 124 MA's), (4, 65515), (6, 65593),

Gene: Pat3\_114 Start: 64905, Stop: 65147, Start Num: 3

Candidate Starts for Pat3\_114:

(Start: 2 @64863 has 1 MA's), (Start: 3 @64905 has 124 MA's), (4, 65013), (6, 65091),

Gene: Petra64142\_118 Start: 65875, Stop: 66117, Start Num: 3

Candidate Starts for Petra64142\_118:

(1, 65797), (Start: 3 @65875 has 124 MA's), (4, 65983), (6, 66061),

Gene: Phaja\_116 Start: 65473, Stop: 65715, Start Num: 3

Candidate Starts for Phaja\_116:

(Start: 2 @65431 has 1 MA's), (Start: 3 @65473 has 124 MA's), (4, 65581), (6, 65659),

Gene: Pharsalus\_114 Start: 65547, Stop: 65789, Start Num: 3

Candidate Starts for Pharsalus\_114:

(Start: 3 @65547 has 124 MA's), (4, 65655), (6, 65733),

Gene: PhatBacter\_117 Start: 65775, Stop: 66017, Start Num: 3

Candidate Starts for PhatBacter\_117:

(1, 65697), (Start: 3 @65775 has 124 MA's), (4, 65883), (6, 65961),

Gene: Phaux\_116 Start: 66335, Stop: 66577, Start Num: 3

Candidate Starts for Phaux\_116:

(1, 66257), (Start: 3 @66335 has 124 MA's), (4, 66443), (6, 66521),

Gene: Phrux\_110 Start: 64413, Stop: 64655, Start Num: 3

Candidate Starts for Phrux\_110:

(1, 64335), (Start: 3 @64413 has 124 MA's), (4, 64521), (6, 64599),

Gene: Policronamos\_117 Start: 66039, Stop: 66281, Start Num: 3

Candidate Starts for Policronamos\_117:

(1, 65961), (Start: 3 @66039 has 124 MA's), (4, 66147), (6, 66225),

Gene: Porky\_113 Start: 64737, Stop: 64979, Start Num: 3

Candidate Starts for Porky\_113:

(1, 64659), (Start: 3 @64737 has 124 MA's), (4, 64845), (6, 64923),

Gene: Pumpkin\_115 Start: 64753, Stop: 64995, Start Num: 3

Candidate Starts for Pumpkin\_115:

(1, 64675), (Start: 3 @64753 has 124 MA's), (4, 64861), (6, 64939),

Gene: Quallification\_115 Start: 65821, Stop: 66063, Start Num: 3

Candidate Starts for Quallification\_115:

(1, 65743), (Start: 3 @65821 has 124 MA's), (4, 65929), (6, 66007),

Gene: Rakim\_116 Start: 65241, Stop: 65483, Start Num: 3

Candidate Starts for Rakim\_116:

(1, 65163), (Start: 3 @65241 has 124 MA's), (4, 65349), (6, 65427),

Gene: Rimmer\_112 Start: 65212, Stop: 65454, Start Num: 3

Candidate Starts for Rimmer\_112:

(1, 65134), (Start: 3 @65212 has 124 MA's), (4, 65320), (6, 65398),

Gene: RiverMonster\_113 Start: 65308, Stop: 65550, Start Num: 3

Candidate Starts for RiverMonster\_113:

(1, 65230), (Start: 3 @65308 has 124 MA's), (4, 65416), (6, 65494),

Gene: Saints25\_110 Start: 63238, Stop: 63480, Start Num: 3

Candidate Starts for Saints25\_110:

(1, 63160), (Start: 3 @63238 has 124 MA's), (4, 63346), (6, 63424),

Gene: Sassay\_109 Start: 63658, Stop: 63900, Start Num: 3

Candidate Starts for Sassay\_109:

(1, 63580), (Start: 3 @63658 has 124 MA's), (4, 63766), (6, 63844),

Gene: ShamWow\_115 Start: 66124, Stop: 66366, Start Num: 3

Candidate Starts for ShamWow\_115:

(1, 66046), (Start: 3 @66124 has 124 MA's), (4, 66232), (6, 66310),

Gene: ShereKhan\_112 Start: 66067, Stop: 66309, Start Num: 3

Candidate Starts for ShereKhan\_112:

(1, 65989), (Start: 3 @66067 has 124 MA's), (4, 66175), (6, 66253),

Gene: Simpliphy\_112 Start: 64879, Stop: 65121, Start Num: 3

Candidate Starts for Simpliphy\_112:

(1, 64801), (Start: 3 @64879 has 124 MA's), (4, 64987), (6, 65065),

Gene: SirDuracell\_118 Start: 65404, Stop: 65646, Start Num: 3

Candidate Starts for SirDuracell\_118:

(Start: 2 @65362 has 1 MA's), (Start: 3 @65404 has 124 MA's), (4, 65512), (6, 65590),

Gene: SophKB\_113 Start: 65289, Stop: 65531, Start Num: 3  
Candidate Starts for SophKB\_113:  
(Start: 3 @65289 has 124 MA's), (4, 65397), (6, 65475),

Gene: Sotrice96\_119 Start: 66191, Stop: 66433, Start Num: 3  
Candidate Starts for Sotrice96\_119:  
(Start: 3 @66191 has 124 MA's), (4, 66299), (6, 66377),

Gene: Stank\_117 Start: 65686, Stop: 65928, Start Num: 3  
Candidate Starts for Stank\_117:  
(1, 65608), (Start: 3 @65686 has 124 MA's), (4, 65794), (6, 65872),

Gene: Stark\_114 Start: 65192, Stop: 65434, Start Num: 3  
Candidate Starts for Stark\_114:  
(1, 65114), (Start: 3 @65192 has 124 MA's), (4, 65300), (6, 65378),

Gene: StellaBean\_112 Start: 65489, Stop: 65731, Start Num: 3  
Candidate Starts for StellaBean\_112:  
(1, 65411), (Start: 3 @65489 has 124 MA's), (4, 65597), (6, 65675),

Gene: StolenFromERC\_116 Start: 65031, Stop: 65273, Start Num: 3  
Candidate Starts for StolenFromERC\_116:  
(1, 64953), (Start: 3 @65031 has 124 MA's), (4, 65139), (6, 65217),

Gene: StormChicken\_116 Start: 65956, Stop: 66198, Start Num: 3  
Candidate Starts for StormChicken\_116:  
(1, 65878), (Start: 3 @65956 has 124 MA's), (4, 66064), (6, 66142),

Gene: TBrady12\_118 Start: 65123, Stop: 65365, Start Num: 3  
Candidate Starts for TBrady12\_118:  
(1, 65045), (Start: 3 @65123 has 124 MA's), (4, 65231), (6, 65309),

Gene: Tarkin\_113 Start: 65932, Stop: 66174, Start Num: 3  
Candidate Starts for Tarkin\_113:  
(1, 65854), (Start: 3 @65932 has 124 MA's), (4, 66040), (6, 66118),

Gene: TeardropMSU\_114 Start: 65293, Stop: 65535, Start Num: 3  
Candidate Starts for TeardropMSU\_114:  
(Start: 3 @65293 has 124 MA's), (4, 65401), (6, 65479),

Gene: Teaspoon\_115 Start: 65671, Stop: 65913, Start Num: 3  
Candidate Starts for Teaspoon\_115:  
(1, 65593), (Start: 3 @65671 has 124 MA's), (4, 65779), (6, 65857),

Gene: Terminus\_117 Start: 66332, Stop: 66574, Start Num: 3  
Candidate Starts for Terminus\_117:  
(1, 66254), (Start: 3 @66332 has 124 MA's), (4, 66440), (6, 66518),

Gene: Thimble\_116 Start: 64293, Stop: 64535, Start Num: 3  
Candidate Starts for Thimble\_116:  
(1, 64215), (Start: 3 @64293 has 124 MA's), (4, 64401), (6, 64479),

Gene: Thresher\_115 Start: 65972, Stop: 66214, Start Num: 3  
Candidate Starts for Thresher\_115:  
(1, 65894), (Start: 3 @65972 has 124 MA's), (4, 66080), (6, 66158),

Gene: Tomaszewski\_109 Start: 64870, Stop: 65112, Start Num: 3  
Candidate Starts for Tomaszewski\_109:  
(1, 64792), (Start: 3 @64870 has 124 MA's), (4, 64978), (6, 65056),

Gene: Toto\_113 Start: 66124, Stop: 66366, Start Num: 3  
Candidate Starts for Toto\_113:  
(1, 66046), (Start: 3 @66124 has 124 MA's), (4, 66232), (6, 66310),

Gene: Traaww1\_111 Start: 64673, Stop: 64915, Start Num: 3  
Candidate Starts for Traaww1\_111:  
(1, 64595), (Start: 3 @64673 has 124 MA's), (4, 64781), (6, 64859),

Gene: Tuco\_119 Start: 67352, Stop: 67594, Start Num: 3  
Candidate Starts for Tuco\_119:  
(Start: 3 @67352 has 124 MA's), (4, 67460), (6, 67538),

Gene: Ukulele\_109 Start: 64689, Stop: 64931, Start Num: 3  
Candidate Starts for Ukulele\_109:  
(1, 64611), (Start: 3 @64689 has 124 MA's), (4, 64797), (6, 64875),

Gene: Wiggin\_117 Start: 65116, Stop: 65358, Start Num: 3  
Candidate Starts for Wiggin\_117:  
(1, 65038), (Start: 3 @65116 has 124 MA's), (4, 65224), (6, 65302),

Gene: Willez\_109 Start: 63658, Stop: 63900, Start Num: 3  
Candidate Starts for Willez\_109:  
(1, 63580), (Start: 3 @63658 has 124 MA's), (4, 63766), (6, 63844),

Gene: Xandras\_114 Start: 64939, Stop: 65181, Start Num: 3  
Candidate Starts for Xandras\_114:  
(1, 64861), (Start: 3 @64939 has 124 MA's), (4, 65047), (6, 65125),

Gene: YassJohnny\_111 Start: 63679, Stop: 63921, Start Num: 3  
Candidate Starts for YassJohnny\_111:  
(1, 63601), (Start: 3 @63679 has 124 MA's), (4, 63787), (6, 63865),

Gene: Youngblood\_118 Start: 65828, Stop: 66070, Start Num: 3  
Candidate Starts for Youngblood\_118:  
(1, 65750), (Start: 3 @65828 has 124 MA's), (4, 65936), (6, 66014),

Gene: xkcd\_118 Start: 66013, Stop: 66255, Start Num: 3  
Candidate Starts for xkcd\_118:  
(1, 65935), (Start: 3 @66013 has 124 MA's), (4, 66121), (6, 66199),